

# National Geodetic Survey Update

Providence, RI

May 6, 2010

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Director, National Geodetic Survey



# FY 2010 NGS Performance Measures

- Percentage of U.S. counties rated as fully enabled or substantially enabled with accurate positioning capacity.

FY2010 Goal = 77%

**Ahead of Schedule**

- Update the US shoreline.

FY10 Goal = 3.3%

**Ahead of Schedule**

- Update the shoreline in priority ports.

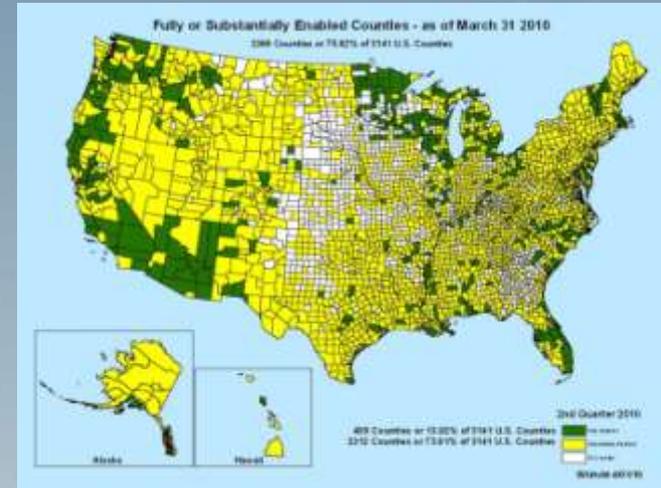
FY10 Goal = 16%

**Ahead of Schedule**

- Analyze priority ports for changes.

FY10 Goal = 15.4%

**Ahead of Schedule**



# Shoreline Mapping ARRA Funding

Project + Subtask	Vendor	Funding
MI0905-Lake Superior and Lake Huron	Woolpert, Inc, Dayton, OH	\$434,520
LA0801-Terribonne and Timbalier, LA	Aero-Metric Inc, Sheboygan, WI	\$169,091
MI0904-Southern shore of Lake Superior	Tuck Mapping Solutions, Big Stone Gap, VA	\$303,968
MI0906-Lake Huron and Lake St Claire	Western Air Maps, Overland Park, KS	\$340,401
MN0904-North shore of Lake Superior	Nova Digital Systems, Charlotte, NC	\$142,716
NY0905-Lake Ontario	Photo Science, Lexington, KY	\$317,539
OH0906-Lake Erie	Aero-Metric, Inc, Sheboygan, WI	\$302,331
		\$2,010,566



**NGS received just over \$2M from the Mapping and Charting ARRA funding line to compile shoreline from imagery.**

# VDatum Tri-office Update

## VDatum Development and Program Implementation

- 2010 -- SC to FL Regional Model (Completed)
- 2011 -- Texas & Northeast (ME – MA) Models
- 2011+ Updates to existing models
- 2012 -- Puerto Rico/Virgin Islands Model
- Insufficient base data in AK, HI and Pacific territories to allow timely model development
- Maintenance procedures to be developed
- Validation of VDatum models



# Height Modernization Program Update

- Funding 2010:
  - Hard Earmarks - \$2.8 M (IL, TX, WI, LA)
  - Soft Earmark - \$5.5M (MS, with CSC)
  - Base – \$2.541M
  - 17 states funded so far; Plan to award up to 4 grants this year
- Develop National Plan: focus on regional approach to implementation, transition to new datum as outlined in 10-year plan
- Other Activities:
  - With NWS and USGS – update stream gage datums
  - Prepare for implementation of new vertical datum
  - Assist with Federal Geospatial Summit
  - Work with datasheet group to update datasheets for special needs situations
  - Support GRAV-D

# FY 2010 GRAV-D Update

\$4M in President's 2010 Budget  
\$3M enacted in 2010  
\$3M in President's Budget 2011

## Accomplishments:

- May 2009 -- NGS finishes gravity collection from AL/GA state line to the Mexican border.
- August 2009 -- NGS completes Gravity Collection of interior Western Alaska.
- **May 2010 -- NGS begins operational phase of GRAV-D with base funding in Alaska.**

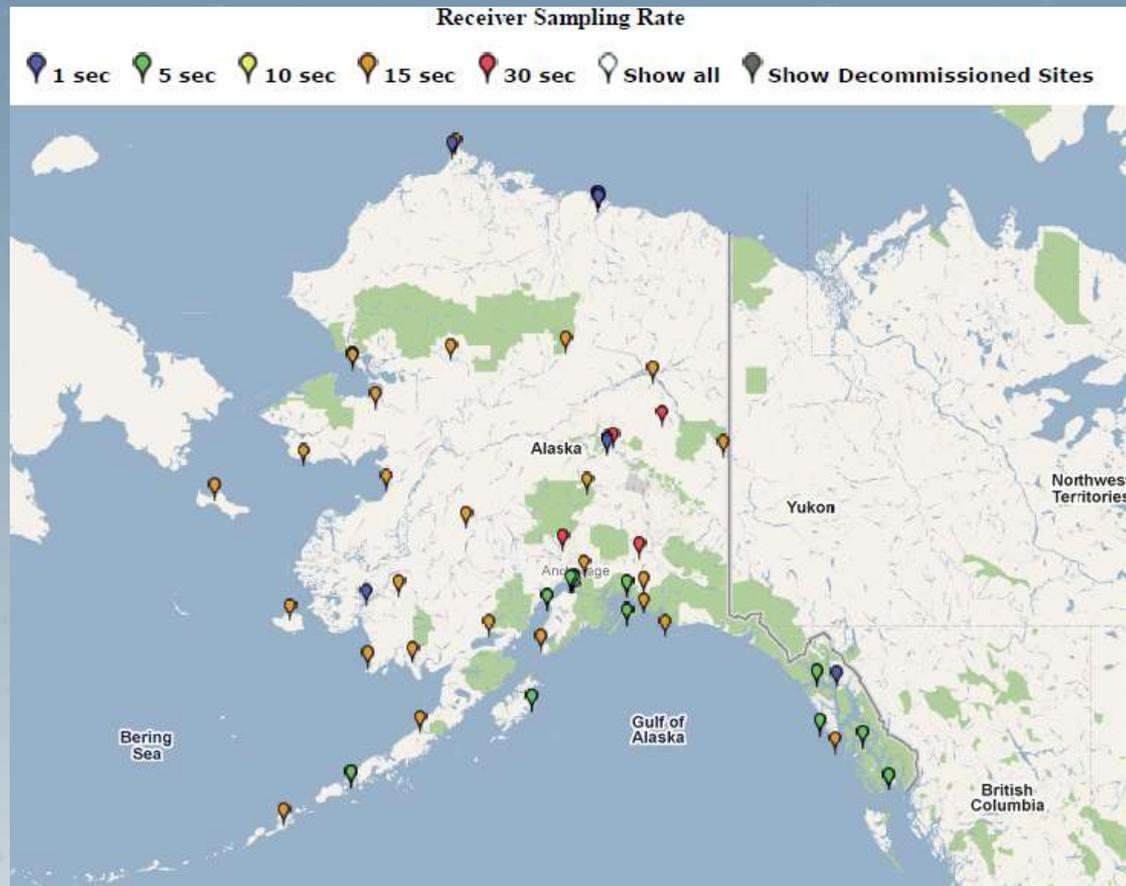


Gravity data collection  
FY 2008 FY 2009 FY 2010

# Alaska CORS Update

NGS is working with partners to add CORS stations to fill some critical gaps in coverage for the region.

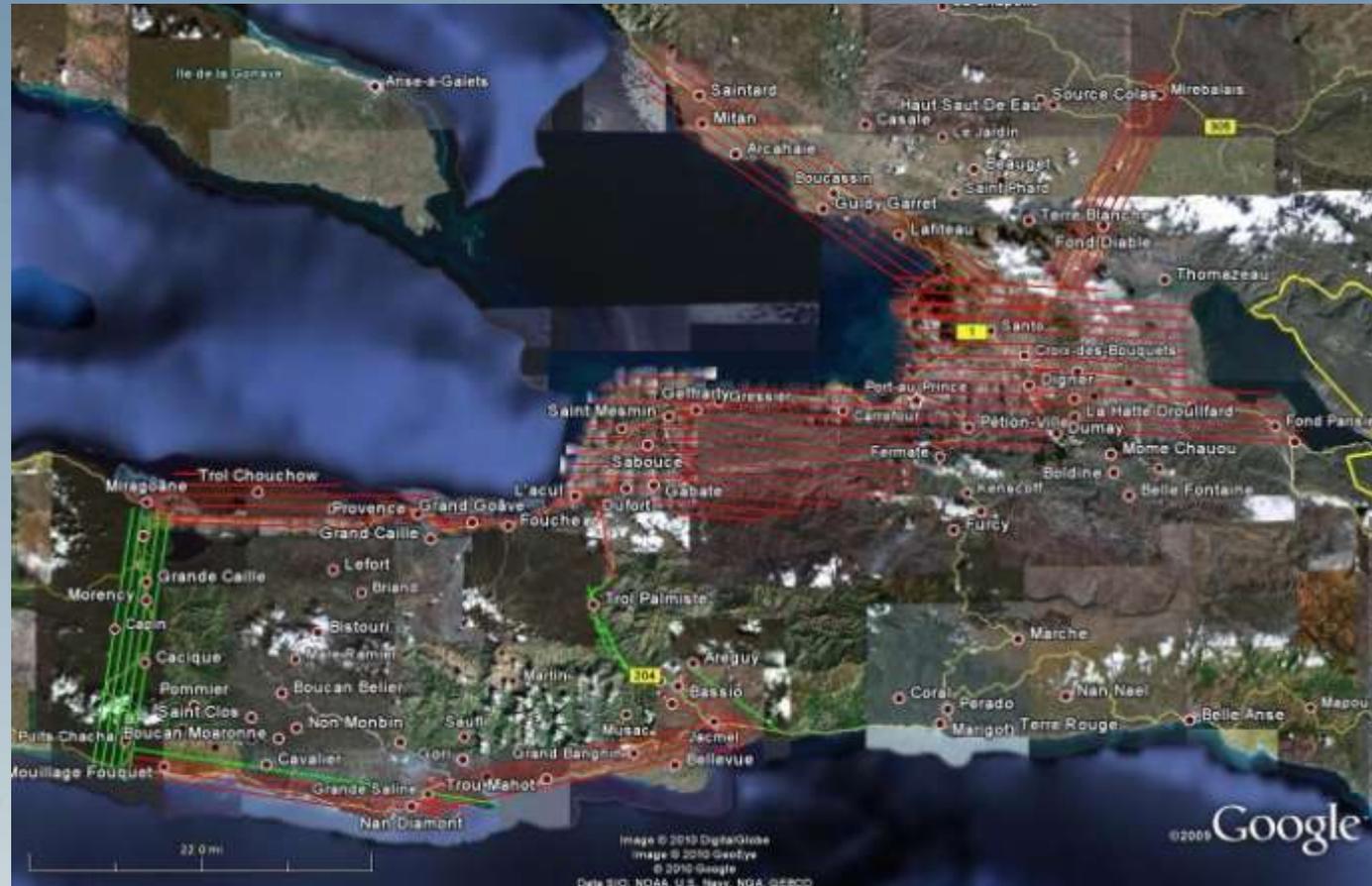
In 2010, for example, NGS added over 20 stations owned and operated by the Plate Boundary Observatory to the NOAA CORS Network in Alaska.



**Current Alaska CORS coverage – 4/28/2010**

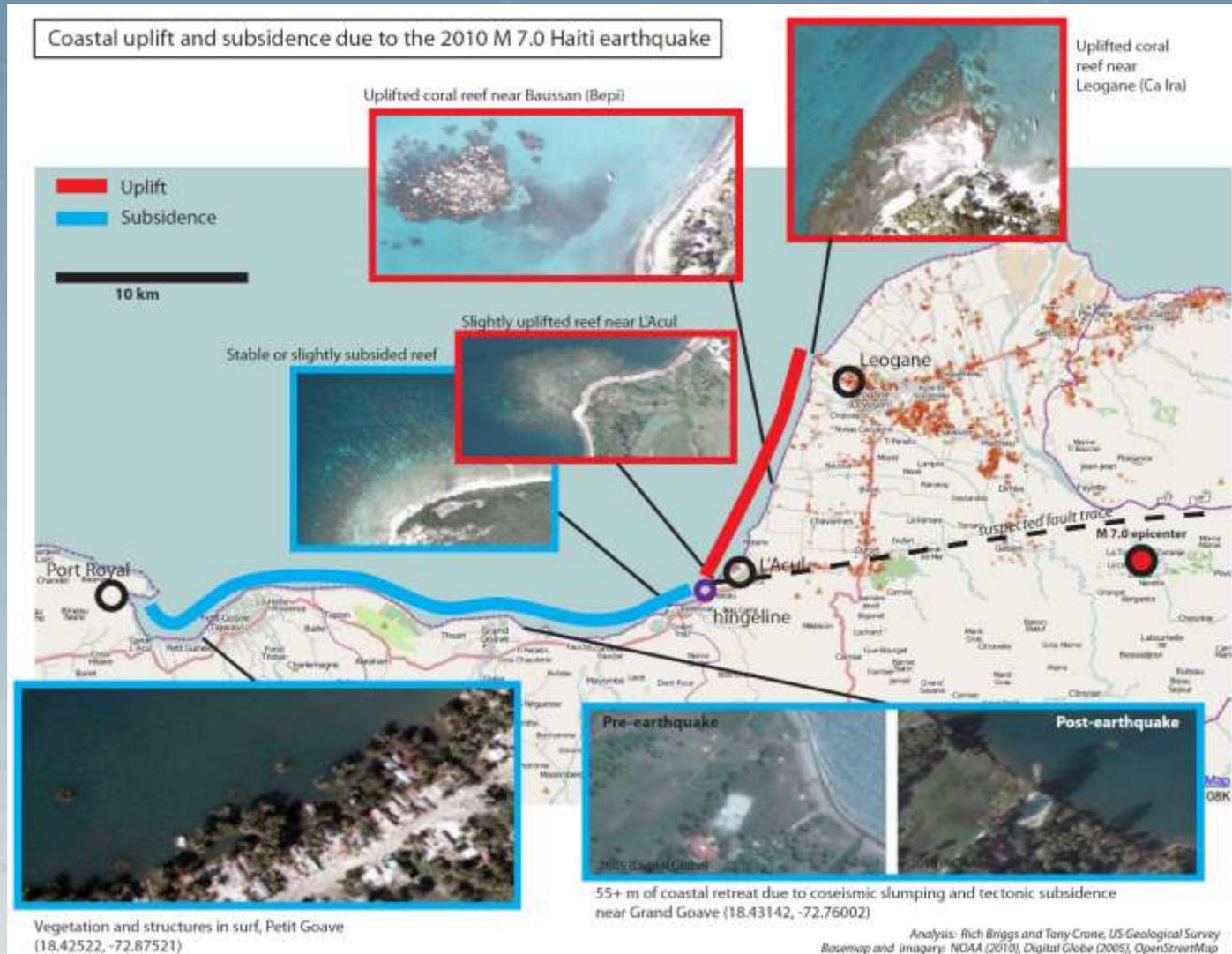
# Emergency Response Imagery: Haiti

- NGS collected 3,298 aerial images of Haiti following the January 12, 2010, 7.0 Earthquake.
- NGS supported and collaborated with DOD, DHS, USAID, USGS, and other agencies.
- NGS brought online additional CORS to aid imagery collection.
- Images are available here:



[http://edcftp.cr.usgs.gov/pub/data/disaster/201001\\_Earthquake\\_Haiti/data/](http://edcftp.cr.usgs.gov/pub/data/disaster/201001_Earthquake_Haiti/data/)

# USGS Determined Tectonic Movement: **Haiti**

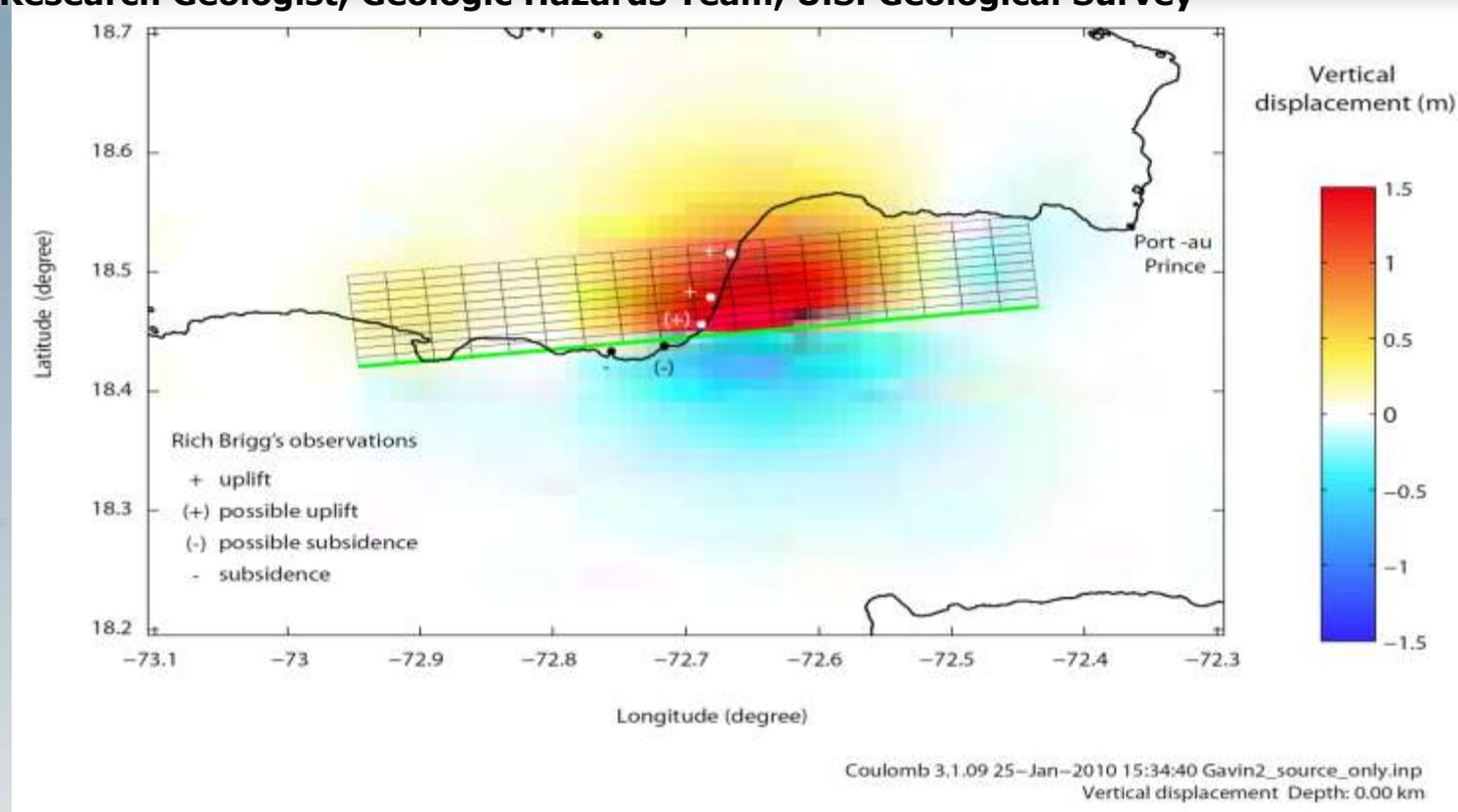


# USGS Determined Tectonic Movement: **Haiti**

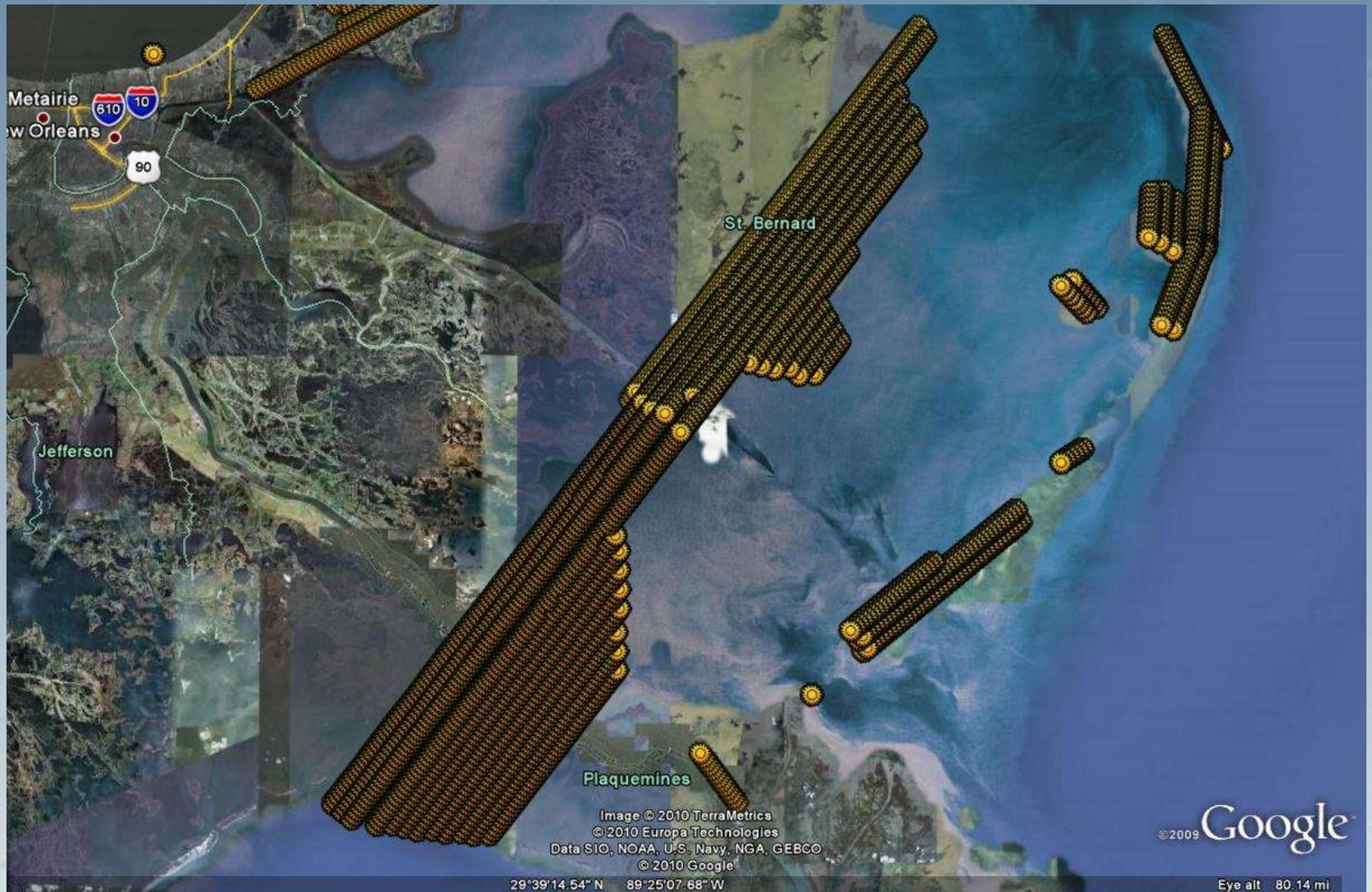
“I wanted to thank you (Mike Aslaksen of NGS Remote Sensing) and your crew for your amazing efforts in Haiti. **Your shots were key for us to be able to confidently identify coastal uplift and subsidence.**”

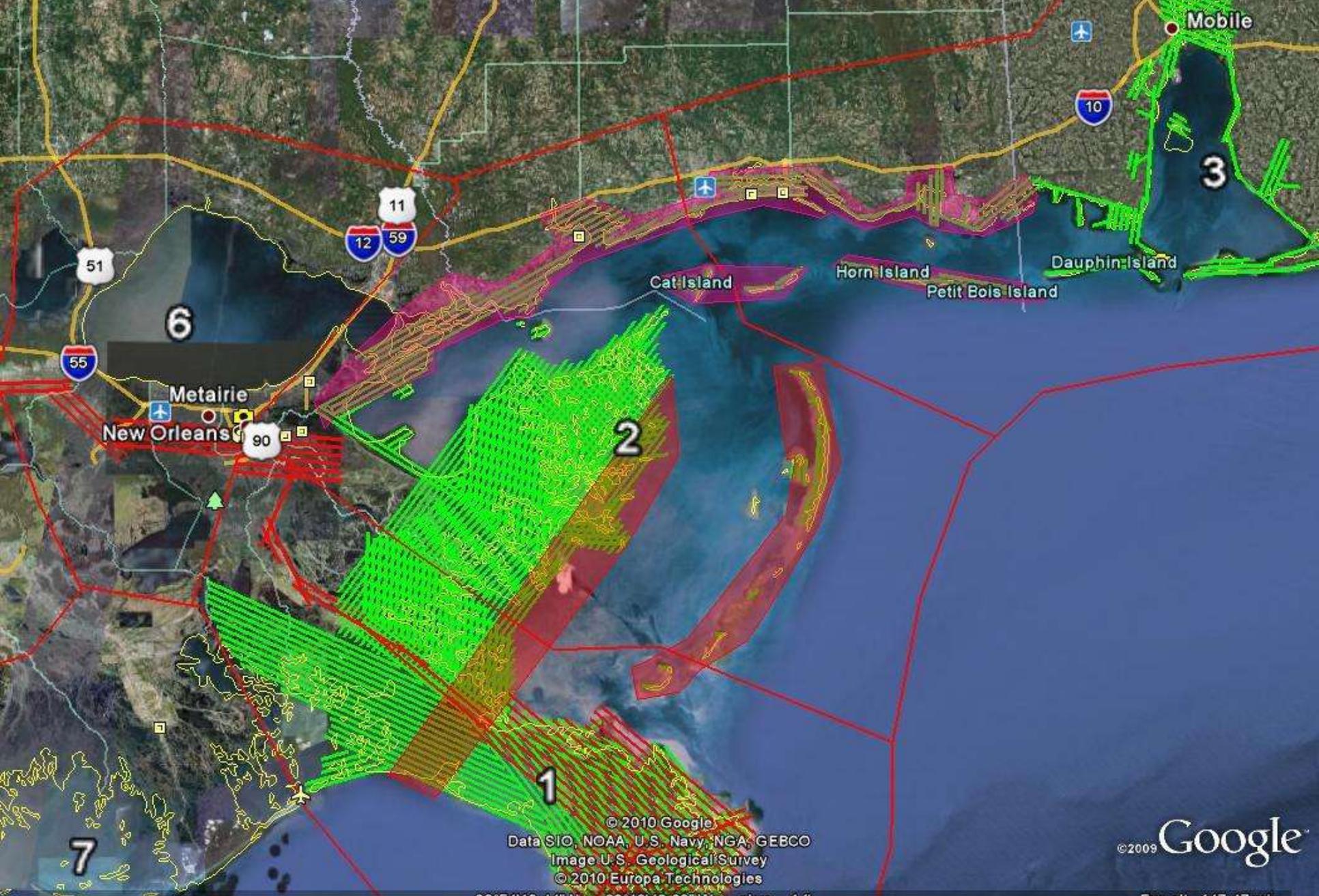
- Rich Briggs

Research Geologist, Geologic Hazards Team, U.S. Geological Survey



# Deepwater Horizon Response





© 2010 Google  
Data SIO, NOAA, U.S. Navy, NGA, GEBCO  
Image U.S. Geological Survey  
© 2010 Europa Technologies

29°54'19.44" N 89°10'43.09" W elev -1 ft

©2009 Google

Eye alt 147.47 mi

# HYDROGRAPHIC SERVICES REVIEW PANEL



# NGS Led FY 2010 Milestones

- Complete and Submit GRAV-D Cost Analysis as requested by OMB in FY 2010 Passback **(Q1 Complete)**
- Develop prototype gravimetric geoid based orthometric height tool within OPUS to evaluate the discrepancies between NAV88 heights and true orthometric heights **(Q2 Complete)**
- Provide the vertical velocity of each CORS that has collected at least three consecutive years of GPS data **(Q3 On Track)**
- Deliver 15 training events, which together target at least 1,000 participants coordinated through the Corbin Training Center including geodetic training for National Estuarine Research Reserve System (NERRS) sites and at least one cooperative training event with CO-OPS **(Q4 On Track)**

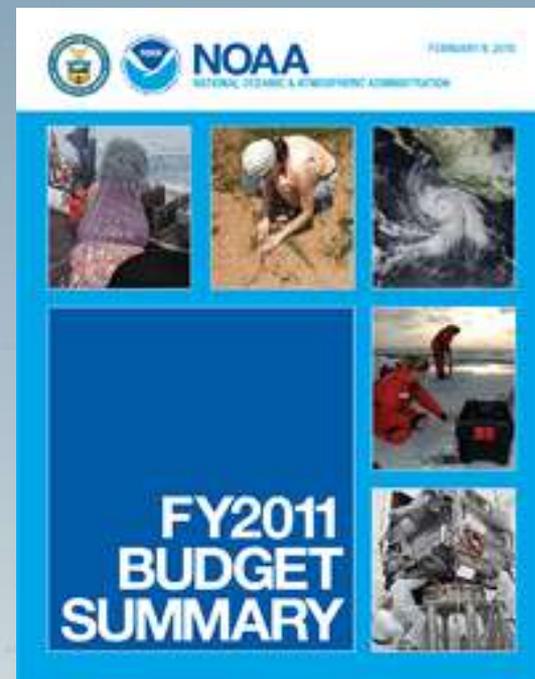
# FY 2011 President's Budget

## NGS - Geodesy:

- Base: \$26,895 million **(includes \$3 million for GRAV-D)**
  - Change from FY 2010 Enacted: + \$478K
- National Height Modernization: \$2.541 million
  - Change from FY 2010 Enacted: None

## NGS - MTS:

- Mapping and Charting Base: \$3.95 million
  - Change from FY 2010 Enacted: None
- Shoreline Mapping: \$2.424 million
  - Change from FY 2010 Enacted: None



# Federal Geospatial Summit

## Federal Geospatial Summit on proposed improvements to the National Spatial Reference System and Replacing NAD 83 and NAVD 88

**Date:** May 11 - 12, 2010

**Location:** NOAA Science Center, Silver Spring, MD

### Goals:

- Disseminate the rationale leading to the decision to modernize the horizontal and vertical geodetic datums.
- Exchange information on the plans and methodologies to modernize the geometric and geopotential datums of the NSRS.
- Share concerns on how the replacement of these two datums will impact the user community.
- Outline future tasks which must be accomplished for the successful redefinition of the horizontal and vertical datums.

**Participants:** NGS and all interested federal partners

